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THE AMERICAN PRACTITIONER.

FEBRUARY, 1874.

Certainly it is excellent discipline for an author to feel that he must say all he has to say in the fewest possible words, or his reader is sure to skip them; and in the plainest possible words, or his reader will certainly misunderstand them. Generally, also, a downright fact may be told in a plain way; and we want downright facts at present more than any thing else.—RUSKIN.

Original Communications.

CHOLERA HYGIENE.

BY ELY M'CLELLAN, M. D.,
Assistant Surgeon U. S. A.

During the months of August and September, 1873, it was the fortune of the writer of these pages to witness the epidemic of cholera in the counties of Garrard and Marion of the state of Kentucky, and at a later date to investigate the manifestations of the disease as they appeared in some twenty-six counties of the state.

A careful study of this epidemic, and a rigid comparison of the features presented by it with authentic histories of the disease, as well as those manifestations which the writer had witnessed in widely-separated regions of the United States, developed no new facts in the etiology of cholera.

In the vast majority of the locations infected with cholera in the state of Kentucky during the past year *the direct importation of the disease* has been most satisfactorily proven. The facts relating to the individuals who acted as the porters of the disease have been obtained, and step by step, from its

inception to its close, the epidemic has been traced. At a few points the data which relates to the importation of the disease is obscure; but as each of these localities is upon the line of public travel, it is safe to affirm that these instances present no exception to the fixed laws by which the progress of cholera is governed.

In witnessing and noting the effect produced upon the public when the disease of the past summer was developed, the writer was profoundly impressed with several facts.

I. The eagerness with which the public mind fastened upon any thing which could give information of cholera. This was not alone exhibited by those individuals who were influenced by personal fears, but by noble men and women, who lavishly poured out their substance as well as sympathy upon the sick and dying.

II. The terror which was exhibited in some localities on the development of the disease, and the inefficient means adopted, from a want of knowledge, to prevent its spread.

III. The utter impossibility of instituting proper sanitary regulations in a cholera district *after* the disease had become epidemic.

Deeply impressed with these facts, and with the train of thought to which they lead, the following outlines of the etiology of cholera, and a statement of the sanitary precautions which should be adopted to prevent the development and spread of the disease, have been prepared. Scarcely a doubt exists, judging from past experience, that cholera development can be controlled by sanitary measures, and that in isolated cases the disease can be stamped out by the proper use of disinfectants. But how powerless are sanitary officials in communities where the alarming ignorance and carelessness of individuals favor the development and spread of this most fatal disease!

When the authorities of inland towns as well as of large cities are convinced of the efficiency of hygienic regulations

in protecting the health of communities intrusted to their care; when the members of such communities are possessed of sufficient knowledge of the disease to enable them to perform their individual duties *before*, *during*, and *after* an epidemic; then may scientists who devote their attention to the preservation of the public health hope to effectually enforce such measures as may check cholera as effectually as vaccination has checked small-pox.

That the death-march of cholera has not been arrested, that again the disease has advanced to the Atlantic coast of Europe, that again the British islands have been invaded, that again the disease has been brought to New York harbor, renders it necessary that the possible development of cholera in America during the ensuing year should be met by every sanitary engine of destruction which it is within the power of the public to employ.

On the 30th of September, 1873, four cases of cholera were reported to have reached Liverpool by direct importation from Havre.* On the 7th of October of the same year a case of cholera was discovered on a ship from Caen, which had passed Gravesend, on the river Thames; and during the fall of the same year two Hamburg and one Havre steamers brought the disease into New York harbor. In each of these instances the disease was vigorously stamped out at the quarantine.

The events of the next few months will determine whether the United States will again become inflicted with the disease from European importation, or whether the poison from which the disease is developed has remained dormant in localities which were affected during the past year, to be redeveloped in its full malignant power at a fitting season.

What is cholera? This question—so often asked, so often answered—has been ably met by Macnamara, from whom we quote in detail:

* Medical Times and Gazette, October 4 and 11 and November 1, 1873.

"Cholera is a disease which is generated at all seasons of the year among human beings inhabiting certain parts of India. It is capable of being disseminated over the world through the instrumentality of the fomites of those who suffer from the disease, though it may be only in the mild form usually described as cholerine. Cholera has a predilection for persons whose general health has been impaired from defective hygienic circumstances, from disease, want of proper food, or any similar cause. In the same way depression of the nervous force, by inducing an abnormal condition of the intestinal secretions, whether permanent or temporary, renders an individual peculiarly liable to an attack of cholera.

"The seizure is characterized by nausea, faintness, and a feeling of oppression in the præcordial region, griping pains in the abdomen, frequent watery purging (the stools being alkaline when passed, and in appearance resembling rice-water), constant vomiting, suppression of urine, and profuse perspiration; the skin is inelastic, and that of the hands and feet shriveled and dusky; the eyes are sunk and the features pinched; cramps are felt in the limbs; there is difficulty of breathing, intense thirst, excessive restlessness, rapid, small pulse, and suppressed voice; the external temperature of the body sinks below 38° F., and a peculiar sweetish, sickly odor (fishy) is exhaled from the body, breath, and dejections.

"If left to nature about one half of those attacked with cholera recover of themselves, reaction supervening, and often being accompanied with fever, and not unfrequently with suppression of urine and various complications; or the disease may terminate within a few hours from its commencement in fatal collapse."*

A careful study of the various epidemics of cholera amply demonstrates the following facts:† that cholera, or that which produces cholera, is portable; that the poison may be carried from an infected locality to one that is healthy, and that in the latter the disease may be developed and assume a malignant epidemic form; that the disease advances in a general westward course through the world, and invariably follows the lines of travel; that the most active agents in its distribution are individuals who, having become infected, it may be insensibly, at a point where the disease is epidemic, pass

* Treatise on Asiatic Cholera, C. Macnamara. Churchill & Sons, London.

† Science and Practice of Medicine, Aitkin, Amer. ed., p. 620; Principles and Practice of Physic, Watson, Amer. ed., p. 916; Text-book of Practical Medicine. Niemeyer, translation; Notes on Asiatic Cholera, J. C. Peters, Van Nostrand, N. Y.; Cholera in Insular Positions, Smart, Lancet, May, 1873; Report on Epidemic Cholera, Circular No. 5, S. G. O., Washington, 1867; Report of English Army Medical Department, London, 1871; "Channels through which Cholera is Communicable," Murray, British Medical Journal, August, 1873.

over the ordinary lines of travel, and place a greater or less distance, according to the length of the period of incubation and the rapidity with which the journey is performed, between the point of original infection and the localities at which they establish foci of disease; finally, that the cholera poison may be carried from an infected point to a healthy community, in which the disease may become epidemic, while the individual who has acted as the porter of the disease enjoys an entire immunity.

Through the kindness of Dr. John C. Peters, who possesses a most accurate knowledge of the habits of cholera and of the topography of its favorite routes, whose maps are monuments of his indefatigable devotion to the study of this disease, we are able to trace in Asia and Europe the steps of the epidemic which burst upon the United States during the summer of 1873.

The great epidemic of cholera in the years 1865, '66 and '67 left Russia with only eighty-three cases of the disease in 1868. These cases occurred in Kiev, the holy city of Russia, situated on the river Dnieper, and to which city over fifty thousand pilgrims come annually. In 1869 there were nine hundred and eleven cholera cases in Russia, which spread from Kiev north-east toward Orel and Moscow, and down the river Dnieper to Odessa. In the mean time the great Hurdwar epidemic of 1867, in Northern India, had been carried along the north Persian route, by way of Jelalabad, Cabul, Herat, Meschid, to Asterabad, upon the Caspian Sea, across which it was conveyed by steamers to Baku, and from thence overland, by way of Tiflis, to Poti, upon the Black Sea. In 1870 cholera was developed at Taganrog, on the sea of Azof, and at Kertch, in the Crimea, and spread through Russia. In consequence of this importation, in 1870, in Russia twenty thousand one hundred and forty cases occurred.*

* Practitioner, Oct., 1873, p. 308; Brit. Med. Jour., Aug., 1873, p. 220; Sixth Annual Report of the Sanitary Commissioner with the Government of India.

In 1869 a fresh outbreak of cholera occurred at Peshawer, in the Punjab. Again the disease was conveyed over the North Persian route toward Europe. At the same time it was carried down the river Indus, infecting all towns upon its banks, to the city of Kurrachee, at the mouth. From this point the disease was carried up the Persian Gulf to Bushire; from thence overland, by way of Shiraz and Ispahan, to Teheran, at which city the North and South Persian routes come together.

The ports of the Black Sea were again infected in 1870. The epidemic in Russia was re-enforced, and in 1871 there were three hundred and five thousand two hundred and twenty cases reported, and the disease was carried into Poland. By means of the travel upon the rivers Niemen and Vistula, which rivers are connected with the Dnieper by canals, cholera was carried to Konigsberg, Stiffin, and Dantzic, on the Baltic. In these cities the epidemic lasted during 1871, '72 and '73. In 1872 Prussia and Austria were invaded. Again, in 1873, did the disease appear in the Baltic cities, and spread through Europe to England.

In February, 1873, cholera was reported in the city of New Orleans, but whether it was imported from Hamburg or from Rio de Janeiro remains to be solved.

The epidemic of cholera, as it affected Garrard County, Ky., presents a notable instance of the portability of the disease.

On the 10th day of August, 1873, a gentleman arrived in Lancaster, having traveled on horseback from Russellville, Tenn., which town prior to his departure was infected with cholera. A few hours after his arrival in Lancaster he was attacked with the disease. No care was taken to disinfect the dejections or in any way to isolate the case. He was visited by his father-in-law, who remained one night in the sick room; the next day was taken with cholera, from which he died in a few hours. The second victim to the disease

was a negro man, who had been employed to nurse the case. From these cases the disease spread and became epidemic.

The report of Drs. Berry and Wilson,* gentlemen who responded to the call of the suffering citizens of Lancaster, having been questioned by some ill-disposed individuals, we fully indorse, from personal observation, the correctness of the statement of these gentlemen.

By the majority of authorities the period of incubation of cholera ranges from thirty-six hours to six days. Pettenkofer, in 1853, demonstrated that in some instances this period might be prolonged to twenty-one days. Taking into consideration these facts and the rapid rate of modern travel, it is in no way surprising that cholera strides across oceans or continents, and is developed almost simultaneously in widely separated localities.

The late epidemic fully illustrates this fact. During the months of February, March, and April, 1873, cholera was in the city of New Orleans, but no point outside of that city was known to have been infected. During May nine distinct points, widely separated, but all within direct communication with New Orleans, were infected, and from these points the course of the disease can most easily be traced.†

Central Kentucky furnishes several notable instances of the immunity from the disease which occasionally individuals enjoy, although they may be the carriers of the infection to others.

Dr. L. S. McMurtry, of New Orleans, relates a case which came under his observation during a visit to Garrard County. A negro woman was attacked with cholera September 2, 1873, and died after fifteen hours' illness. She had lived in a retired locality, had not been from home all summer, had been exceeding careful as to her diet, and her house was a comfortable cabin. No cases of cholera had occurred in the vicinity. Her death was followed by the development of choleraic symptoms in all the members of her family, from which two children died. No cause could be assigned to this outbreak until it was discovered that a boy from the infected district in Lancaster, which town

* A History of Cholera at Lancaster in 1873, Amer. Prac., Oct., 1873.

† Publication of the American Public Health Association.

was nine miles distant, was living in the house; that he had arrived a few days prior to the attack of the woman, and that since his arrival he had been in all respects one of the family. There can be no doubt that he was the infecting agent, although he personally escaped the disease.

Dr. S. P. Craig, of Lincoln County, Ky., in describing the outbreak of cholera in the town of Stanford in that county, states "that cholera was developed, August 29, 1873, in a portion of the town occupied almost exclusively by negroes, and the disease was traced to a filthy privy and cesspool in rear of the houses in which the first cases occurred. Prior to this outbreak several refugee negroes from the infected district in Lancaster arrived at these houses, and remained until the disease was developed in Stanford. They are known to have used this privy. None of this party were attacked with cholera."

These are by no means isolated instances, but are fully corroborated by history of other epidemics.

The distribution of cholera by individuals, the length of time to which the period of incubation may be extended, and the fact that individuals may convey the poison without themselves becoming the subjects of the disease, fully refutes the theory "that cholera is conveyed by some mysterious agency, which enables it to overleap all barriers and suddenly to develop itself in distant and isolated communities."

Endemic in that country which is watered by the Ganges and its tributaries, following the lines of travel, frequenting the large social and religious gatherings of the inhabitants, cholera ever strives in their dispersion to find an outlet from the country. Grand highways of pestilence have been formed, and the trails of the disease are found over Asia, Europe, America, and the eastern coast of Africa. Nor have its ravages been confined to continents; for the islands of the Indian and Atlantic oceans, of the East Indian, Australian, and Polynesian archipelagoes, and those of the Mediterranean Sea, have all undergone severe epidemics.*

* Dr. Smart, Cholera in Insular Positions.

Ever unsuccessfully striving to acquire a local habitation in the Western World, thousands of miles of land and water are crossed. The severity of Russian and Canadian winters are withstood in the close, hot, ill-ventilated cottages of the peasants; but at last the poison-producing power dies, the disease outside of its natural habitation becomes extinct, is no more capable of reproducing itself. But the great highways are still open, and presently the warning is given that once again cholera has commenced its death-march.

The only recorded instance which will bear a searching investigation into all its details of cholera originating outside of Hindoostan is that related by Estrazulas of the endemic of 1866, '67 and 68 in South America.* In this instance there was a combination of all the well-known "factors" of cholera within the lines of the opposing armies during the Paraguayan war. The disease, once developed, obeyed the known laws by which its course has always been governed, and gradually was carried through the Argentine Confederation and Uruguay, reaching the last-named only after the third outbreak.

The theory of Estrazulas, that cholera originated in Paraguay, finds an opponent in Dr. Rego, president of the Imperial Academy of Medicine at Rio de Janerio,† who shows that before the disease occurred in Paraguay the cities of Pernambuco, Guanzy, and Rio de Janeiro had been infected with cholera; that prior to the outbreak in Paraguay a troop-ship left Rio for the seat of war; when two days out from port the troops on this vessel were attacked with cholera; that after entering the Parana River, but before coming within the lines of the army, she was turned back and placed in quarantine at St. Catharine, Brazil.

In the review of Dr. Rego's work by Estrazulas much stress is laid upon seeming inconsistencies in the narrative

*Epidemic Cholera in South America, Estrazulas; American Journal Medical Sciences, July, 1873.

†Review American Journal Medical Sciences, October, 1873.

of events; but the reviewer seems to have overlooked the fact, in his anxiety to establish his "endemic theory," that the infected troop-ship, although she did not come within two hundred miles of the locality in which cholera was developed, still was on the Plata and Parana rivers, and was in communication with other vessels for some time before she was turned back to quarantine.

According to Dr. Smart,* cholera is endemic on the Malay Peninsula and the islands of the Asiatic Archipelago, but he is able in each outbreak to trace the exciting cause to importation.

During the past year Pelikan and other Russian sanitarians startled the medical world by announcing their conclusion that cholera had become endemic in Russia; that the last outbreaks of the disease in Eastern Europe were not from new importations from Asia, but were from the seeds of the disease having remained latent from former epidemics.

The evidence upon which this opinion was based seemed at the time it was published to be unanswerable; but at the recent meeting of the British Medical Association Dr. Radcliffe,† representing the Medical Department of the Privy Council, demonstrated the erroneousness of the conclusions to which Pelikan had arrived. It can be conclusively shown that although the disease lingered at Kiev, the holy city of Russia, during the years 1865, '66, '67 and '68, it had been constantly re-enforced by successive cholera arrivals by way of the Red Sea and North Persian routes. The mass of evidence which has been collected by careful observers‡ in the

* London Lancet, March 22, 1873.

† Medical Times and Gazette, July 12 and August 9, 1873.

‡ Lecture on Epidemic Cholera, Professor Alfred Stillé, University of Pennsylvania, Philadelphia Medical Times, July, 1873; Fauvet on Cholera, Medical Times and Gazette, October 18, 1873; Memorandum on the Propagation and Prevention of Asiatic Cholera, William Rudd, M. D., Clifton, 1861; Watson's Practice of Medicine, op. cit.; Niemeyer's Text-book of Medicine, op. cit.; Aitken's Science and Practice of Medicine, op. cit.

history of cholera may be summed up under a few propositions.

1. *That cholera is a contagious disease, resulting from an organic matter, which entering into the alimentary canal acts upon and destroys the epithelium.*

Without entering into a description of the pathological conditions induced by cholera, the report of the post-mortem examinations made by Hayem, of Paris, in 1873 are cited as indicative of the results obtained by previous observers:

"The only organs constantly involved are the intestines. The capillaries, the different layers of the epithelium, the sets of glands, and the villi had all undergone certain changes, but differed in no way from the changes observed in ordinary intestinal catarrh. In the blood there was found an increase of the white corpuscles and small, fragmented globules. These are explained by the stasis of the blood in the algide period and the decrease in the proportion of water. No microscopic characters peculiar to cholera are found."*

Jaccoud, in his admirable paper on Asiatic cholera in *Pathologie Interne*, translated by Prof. Octerlony, of Louisville, states: "The other lesions observed in cholera and the symptoms arising from them are not immediate effects of the poison, but necessary consequences of the primary lesions, and in a great measure of mechanical origin." †

2. *That the respiratory and digestive organs are the avenues by which individual infection is accomplished.*

The majority of observers unite in the opinion that by the medium of infected air, water, and food the cholera poison gains access to the system. Dr. Ball, of the Hôtel Dieu, thinks that although the digestive tube is the habitat, as it were, of the choleraic poison, yet the lungs are the principal

* London Lancet, October 11, 1873.

† Richmond and Louisville Medical Journal, August, 1873.

Aitken's Practice of Medicine, op. cit., p. 623; Niemeyer, Text-book, op. cit., p. 646; Manual of Practical Hygiene, Parkes, Am ed., 1868, p. 62; Jaccoud, Asiatic Cholera, op. cit., p. 8; Snow's Report on the Cholera Outbreak in Saint James's Parish, London, Churchill, 1855, p. 119; Medical Times and Gazette, October 18, 1873; British Medical Journal, August 23, 1873.

viæ of infection. Dr. Murray, in his admirable paper on the "Channels through which Cholera is Communicable," records his opinion that in some instances the cholera poison enters the system through the skin; and further states that the profuse cold perspiration of a cholera patient, from its peculiar and characteristic odor, is an evidence of the elimination of the disease by the same means.

3. *That the active agents in the distribution of the cholera poison are the dejections of persons who have become infected, or of those in whom the disease is fully developed; that in these dejections there exists an organic matter which in a certain stage of decomposition is capable of reproducing the disease.*

That the rice-water discharges are not simply the watery portions of the blood, as is popularly believed, is demonstrated by chemical examination.

Dr. Thudicum, who has made a careful quantitive examination of the dejecta of cholera patients, finds that these fluids contain "vibriones, cells from the surface of the intestines, granular *débris* of cells, mucin, modified hemochrome, albumen, an albuminous body giving a rose-pink reaction, butyric acid, acetic acid, ammonia, leucine, and some inorganic salts. The discharges in a state of active decomposition evolve nitrogen, then hydrogen, and ultimately nothing but carbonic acid." *

The most careful and patient investigations have failed to determine the presence of any fungoid growths in cholera dejections that differ from those grown in the dejections of patients who may die from other intestinal diseases.

Macnamara states that the rice-water discharges are always alkaline; that soon after they are passed they separate in the vessel into two portions, the floculent matter sinking; that the rapidity with which this takes place is an evidence of the severity of the attack; for if this separation takes place very

* Macnamara, op. cit., p. 351.

speedily, it indicates the complete death and disintegration of the organic matter, and an unfavorable termination of the case may be predicted. He says: "The floculent matter of the stools is composed of epithelial cells and the mucous lining of the intestinal canal in various stages of decomposition. The epithelial cells, disintegrated and changed so as scarcely to be recognized under the microscope, are full of molecular matter, precisely as in other instances of decomposing organic matter, but no new chemical elements can be discovered."

It is from this organic matter, in what is termed the vibrionic stage of decomposition, that Macnamara insists that the dejections of cholera receive their contagious properties; and he bases his opinion upon the results obtained from the experiment hereafter noted.

If a sufficient amount of the fresh dejecta of a cholera patient to produce a slightly opaline tinge be added to water, and the fluid be exposed to the full rays of a hot sun, at the end of twenty-four hours "the vibrio stage of decomposition or change in the organic matter is in full force, the surface of the fluid being covered with large vibriones. During the next twenty-four hours no additional changes will be observed, but on the next ciliated infusoria will have appeared in the fluid and replaced the vibriones, that are no longer to be found in motion, but collected together at the bottom of the vessel. In a few days longer bubbles of gas will rise to the surface, and the sides of the vessel will be lined with confervoid growths." *

Prof. Thiersch fed white mice upon the dejecta of cholera patients. Strips of paper were saturated in the dejecta at various stages of decomposition, with the result that all the animals who ate of the discharges which had been exposed to the air for from two to six days were seized with diarrhea,

* Macnamara, op. cit., p. 396; Lionville on the Propagation of Cholera, Medical Times and Gazette, October, 1873.

suppression of urine, and after death the presence of large quantities of an odorless, colorless liquid was detected in their intestines.

In 1866 Dr. Burdon-Sanderson * confirmed these experiments of Thiersch and added much interesting data. He demonstrated that the liability to attack was greatest when the papers from the third and fourth days of decomposition were eaten, much less and nearly equal as regards the second and fifth days, and least of all as regards the first day. The fluid contents of the intestines of mice that had died from eating human cholera dejections was collected and subjected to the same tests, when it was found that it communicated "a malady indistinguishable in character from that developed by the human dejections in other animals of the same kind."

These experiments have been fully corroborated by those of Thudicum, Marshall, Meyer, and others; but in the hands of Macnamara † they seemed to have failed, while good fortune gave him the results of an accident, unfortunate to the individuals involved, but of incalculable value to science.

"In 1861 a small quantity of the dejecta of a cholera patient was known to have been accidentally washed into a vessel containing water. The mixture, after being exposed to the heat of the sun for one day, was swallowed by nineteen men. They all remained perfectly well during the day; ate, drank, went to bed as usual, and slept as usual. One of them on waking the next morning was seized with cholera. The remainder of the party passed through the second day perfectly well, but two more of them were attacked with cholera the next morning. All the others continued in good health till sunrise of the third day, when two more cases of cholera occurred. The other fourteen men escaped the disease. That the water of which they drank had been contaminated with organic matter was first discovered from the appearance of vibriones on its surface, and this ultimately led to the detection of all the circumstances. Cholera was not prevalent at the time, nor had it visited the locality at which this occurred for several years."

This occurrence led to a number of experiments, which at this time can be but briefly noticed, and from which it was

* Communicability of Cholera, London Lancet, Dec., 1867, p. 770.
† Macnamara, op. cit., pp. 196, 381, 395.

determined that if the alkaline cholera dejecta, even in a stage of decomposition, be rendered acid, the molecular action is instantly destroyed; that if the dejecta of a cholera patient are mixed with the healthy gastric juice of carnivorous animals, the molecular changes are arrested and the organic matter appears to be digested. Reasoning from these experiments, it is safe to assert:

I. That the dejections of a cholera patient swallowed, before the stage of vibrionic decomposition has taken place, by a healthy person will be so acted upon by the acids of the stomach that molecular decomposition will be impossible.

II. That in a healthy subject, the functions of whose stomach are regularly and properly performed, the action of the gastric juice will destroy the molecular process of decomposition, and no infection will result.

III. That if a large quantity of water infected with cholera stuff is swallowed, a portion will inevitably pass at once from the stomach to the intestines, and as their contents are alkaline the process of infection will quickly take place; or if this contaminated water be drunk while the individual is fasting and the secretions of the stomach are alkaline, the gastric juice will not be sufficiently powerful to arrest the decomposition, and infection will result.

The experiments upon which these assertions are based we advance as sufficient reply to and explanation of the circumstances which, in 1833, led to the assertion that cholera was not a contagious disease. So universally was this theory accepted, and so conclusive seemed *the facts that individuals had tasted and drunk of cholera dejections, had fed the same to animals, and had even inoculated themselves with the rice-water discharges, and yet all escaped with impunity*, that at the present day the dogma of non-contagion is adhered to by many.

It is further urged against the theory of the contagiousness of cholera, the supposed immunity to the disease enjoyed by the attendants upon the cholera sick.

Is not this a question worthy of careful consideration? We are profoundly impressed with the belief that, proper precautions having been taken, cholera attendants may enjoy the most perfect security from the infection. But the ques-

Macnamara, op. cit., pp. 383, 384, 402.

tion is, are those attending upon a case of cholera safe when the disease and its products are left to nature alone?

During an epidemic of cholera all the members of a community are not attacked. No epidemic upon this continent has been entitled to be denominated pandemic. *An epidemic of cholera does not occur in every locality contaminated by the arrival of cholera patients.** It is particularly those whose systems are vitiated by other disease; those who are suffering from depression of the nervous force from any cause, but especially from that depression which follows excessive fatigue, debauches, or fear; those who live in open violation of all hygienic laws; those impoverished by want, who are particularly liable to the disease. We have shown how the system of a healthy person may resist the invasion of the disease, but these individuals have nothing to resist with, and therefore succumb.

It is unnecessary to refer to Indian or European epidemics to illustrate the truth of these assertions. The epidemic of 1873 in the state of Kentucky furnishes many marked examples, and from our notes collected for a history of the epidemic the following cases are taken:

1. A young man eighteen years of age, a native of Nelson County, was infected in Marion County, where he had been in attendance upon a friend who died of cholera. On the 20th of August he returned to his home and was attacked with the disease. Many hours passed before a physician could reach him, and his friends ignorantly emptied the dejections upon the ground near the house. The case terminated fatally after nine hours' illness. Upon the arrival of his physician a most careful disinfection was instituted; but all the decomposing dejecta were not reached, for six members of his family were attacked by cholera, and three died.

2. September 2d a young man twenty-six years of age died in Nelson County of cholera. On the 31st day of the previous August he had visited the house of a relative in Marion County where there were several persons sick from cholera, and where no process of disinfection had been instituted. During his visit he sat upon a porch which was quite near to a mass of *débris* upon which all the cholera dejecta had been emptied; and upon this porch he ate his dinner. That evening he left for his home; and it is positively ascertained that in no other

* Jaccoud, op. cit., p. 8; Macnamara, op. cit., p. 194; Physical Course of Epidemic Diseases, A. H. Howe, Churchill, London, 1865.

way did he come in contact with contagion, yet in two days' time we find him sickened and dead.

Another instance is strikingly illustrative:

3. On the 25th of August, 1873, a lady died in the city of Bowling Green of cholera. Her body was removed to Louisville for burial, and the coffin having been opened the body was viewed by her family. Within a few days four cases of cholera occurred in the family, from which three died, and all the remaining members suffered more or less violently from diarrheas.

4. *That cholera dejecta coming in contact with and drying upon any object, such as articles of furniture, bedding, or clothing, will retain indefinitely its power; and that under favorable circumstances the process of decomposition will at once commence.*

To demonstrate the value of the facts on which this proposition is based, Macnamara mixed a fresh cholera dejection with sand and allowed the mixture to dry rapidly under the heat of the sun. After a lapse of seven years "a small quantity of this earthy-looking stuff was placed in water and exposed to the sun, when it could not be distinguished from a fresh cholera stool." *

With the knowledge obtained from this experiment we are able to understand the numerous instances upon record of persons being attacked with cholera after wearing the clothing or sleeping in beds previously used by cholera patients.

To refute the theory of contagion as illustrated under this proposition, the fact is brought forward of cholera clothing having been washed with impunity on the part of those performing the work. Such, however, are isolated instances, and *are accounted for by the fact that the susceptibility of individuals to cholera poison varies so greatly, and that the number of careful, healthy persons who are physically liable to the disease is always small in every community.*

5. *That through the atmosphere of infected localities the disease is frequently communicated to individuals.*

* Macnamara, op. cit., p. 398.

Upon this point the investigations of Niemeyer induced the following record of his views:

"The cholera poison is rarely taken into the system by drinking water containing it. As a rule, it undoubtedly enters the nose and mouth with the air, and is swallowed with the saliva. Using infected privies is so dangerous, because they are the favorite lurking-places for cholera-germs, and the gases arising always contain dust-like particles."

The results of Pettenkofer's theory are that the emanations from infected soil impregnate the atmosphere with the cholera poison. It is indisputable that when cholera dejections are deposited in impure privies, cesspools, or drains the poison is propagated and diffused. Adair County, Ky., furnishes a marked instance.

In the rear of a livery-stable situated in the town of Columbia was a privy, the vault of which was filled to overflowing with putrid excrementitious matter, and the ground in its vicinity was saturated with the drainage from it. During the months of July and August some attempts were made to cause this privy to be disinfected and cleaned. These attempts at sanitary reform were resisted by the proprietor of the stable. Late in the month of August a negro boy, who had become infected with cholera in another county, came to this stable, suffering from diarrhea, and made use of this privy. The diarrhea became cholera, and he died; and from that infected privy an epidemic of cholera spread, which cost that community twenty-six valuable lives.

6. *That water contaminated by surface-washings, by drainage from neglected sewers, cesspools, or privies, may and does become contaminated with the cholera poison.*

Water undoubtedly performs a most important part in the diffusion of cholera. Macnamara insists that an epidemic outburst of cholera can only occur through the drinking-water of the place becoming contaminated with cholera matter.*

The investigations of Dr. Snow, in London, during the epidemics of 1849, 1853, and 1854 prove that cholera may be actively distributed through the medium of drinking-water.

* Macnamara, op. cit.; "Mode of the Communication of Cholera," Snow, Churchill, London, 1855; "Influence of Impure Water in the Diffusion of Cholera," British Medical Journal, August, 1873.

The persistence of a cholera epidemic in Russia during the winter season was only partially accounted for by the habits of the Russian peasants, the construction of their houses so as to exclude all air, the faulty heating apparatus, etc., until Dr. Routh pointed out that in the Russian settlements every thing is thrown out around the dwellings; and that, owing to the intense cold and the great expense of transporting drinking-water, the inhabitants are in the habit of drinking the water from melted snow; that the snow used for this purpose has been frequently that upon which the cholera stools have been thrown, and that by this impure drinking-water the epidemic is prolonged there can scarcely be any doubt.

The epidemic in Central Kentucky during the past season furnishes a striking illustration of the power of drinking-water in disseminating the disease:

> Several isolated cases of cholera had occurred, in the town of Lebanon, near to a small creek which forms one of the drains of the town. A few days after their occurrence the Marion County Fair was held upon the grounds near Lebanon. As the water-supply was less than the demand, the deficiency was supplied from the town. Unfortunately a well was selected on low ground and quite near to the banks of this creek. On the second day of the fair a violent rain-storm deluged the country. The creek was filled to overflowing, and it was impossible that the surface-washings should not have infected this well. On the third and fourth days of the fair the water of this well was served as usual; and on the night of the last day (August 31st) cholera, malignant in its type, was developed in all localities inhabited by those who had visited the grounds and drunk the water.
>
> Great stress is laid upon the fact that subsequently the water from the same well was used by individuals with impunity, for which certainly the theory of vibrionic decomposition, which has been so fully noted, offers a sufficient solution.

7. *That without a combination of all the well-known factors of cholera the disease can not originate* de novo.

Masses of decomposing *débris*, animal or vegetable, can not of themselves produce the cholera poison. They are the hot-beds in and on which the cholera excretions having been placed the poison is reproduced with fatal rapidity.

Peters points out as the principal factors of an epidemic of cholera:

1. An atmosphere impregnated with the products of fermenting human excrement.
2. An elevated temperature, with a still, stagnant, and peculiarly oppressive condition of the atmosphere.
3. Such meteorological conditions as have a marked tendency to favor the chemical decomposition of organic substances.
4. Lowness of site, swampy ground, moist soil, decomposition of vegetable matter, and all those causes which tend to produce bilious and remittent fevers.
5. Foul camping-grounds, filthy streets and yards.
6. Impure water.
7. Bad, spoiled, or defective food.

The summary of cholera causes by Dr. Montgomery may be added to the list of Peters. It is as follows:

1. Undue exposure to the vicissitudes of climate, especially during cold nights following hot days.
2. Physical fatigue and nervous depression.
3. Undue abstinence or deprivation of food.
4. Excesses in eating, drinking, and licentiousness.
5. Vitiated atmosphere from all causes.
6. Direct exposure to the contagion of disease.

The summaries given agree with those of all observers who have devoted sufficient study to the disease to entitle them to be recognized as specialists.

During the past year Dr. G. E. Nicholas, the medical officer of health for Wandsworth, England, advances the theory that flies form one of the most, if not the most, common and direct means of the propagation of cholera. This opinion is based upon the argument of Prof. Leidy, of Philadelphia, and Dr. Nicholas's personal observations. The communication concludes with the remark that "the diarrhea season is generally believed to be associated with the fruit season, and perhaps justly so; but then it is the fly season also, and the fruit may not be *per se* the cause but only the vehicle of the poison communicated by the fly." *

* London Lancet, November 15, 1873.

Since the preceding pages were prepared the following translation of the paper of Högyes has appeared in the current medical journals. It is so strongly corroborative of the statements of Thiersch, Sanderson, Macnamara, and others, which have been noted in detail, that the translation, as it appeared in the Medical Record of January 15, 1874, is hereby transcribed as additional evidence of the truth of the facts elicited by earlier observers. The italics are our own.

"ACTION OF FRESH CHOLERA DISCHARGES UPON ANIMALS.—An interesting series of experiments with the discharges from cholera patients was made during the latter part of July of this year (1873) by Andreas Högyes, of the University of Pesth, a report of which is published in the *Centralblatt für die Med. Wissensc.*, No. 50. The points which it was sought to determine were, in brief, the following:

"I. *Do fresh cholera discharges operate injuriously upon the organism of lower animals, and under what manifestations?*

"II. *Does an artificially excited catarrh of the stomach and bowels increase the susceptibility to the action of the cholera discharges?*

"III. *Can a current of air bear away particles from the discharges which are capable of affecting the organism injuriously, and what difference is there in this respect between non-disinfected and disinfected cholera discharges, simple diarrheal discharges, and putrefying fluids?*

"IV. *Are cholera discharges freed from their form-(living) elements still able to act upon animals?*

"V. *What portions of the disinfected or non-disinfected discharges does the air-current bear away, and what is the further destiny of these form-elements when they fall upon a neutral medium or one adapted to their development? In what manner do these elements modify the action of this medium?*

"To decide the first and second questions, fresh cholera discharges were given to healthy dogs, and to others in which an artificial catarrh of the stomach and intestines had been excited by the administration of croton-oil, sulphate of copper, etc. *Both dogs were made sick, with frequent vomiting and diarrhea; but while the previously healthy animals recovered in three or four days, those in which a catarrh had been excited died the day following.*

"To determine the third question, rabbits were placed under a bell-glass and exposed to air which had become impregnated as desired from either cholera discharges, disinfected or not disinfected, diarrheal discharges, or putrefying fluids. Two rabbits, in one of which a bronchial catarrh had been produced by inhalations of ammonia, were exposed for twenty-four hours to air from cholera discharges not disinfected. *On the third day following violent purging set in, and both animals became soon cold and collapsed. The one in which a bronchial catarrh had been excited died first, and the other five hours later. A rabbit exposed for twenty-four hours to air from disinfected cholera discharges remained well; another exposed for an equal length of time to atmosphere im-*

pregnated from simple diarrhea stools escaped uninjured; while another which remained for twenty-four hours in atmosphere contaminated from putrid fluids, though at first made insensible, afterward recovered without harm.

"As to the fourth point, cholera discharges were injected into the jugular veins of dogs and guinea-pigs; the discharges in one case having first been freed from their form-elements by thorough filtration and in the other not. *The effect in both instances was the same.*

"To determine the final points, a current of air was made to pass through fresh cholera discharges, both disinfected with carbolic acid and not disinfected, and then conducted through two separate vessels, which contained, respectively, an indifferent fluid-medium, and one adapted to the support and development of any living forms which the current should bring to it. The two fluids used were distilled water and the fluid of Cohn. In a short time, in the fluids communicating with the undisinfected discharges, a considerable number of form-elements had accumulated, which proved to be almost exclusively the bacteria which are usually found in putrid animal fluids. In twelve hours Cohn's fluid had become clouded and milky; in twenty-four hours it was covered with a thick bluish-green fungous slime, and emitted a foul odor. The distilled water remained clear. *Both these fluids, when injected into the veins of dogs and rabbits, caused the same symptoms as after injection of the cholera discharges themselves.* This was also true of the fluid of Cohn after its fungous elements had been quite removed by filtration, showing that these elements are at least not the only source of infection. Similar experiments with discharges which had been disinfected with carbolic acid showed that the organisms which the air-current brought to Cohn's fluid were incapable of propagation. Upon injection of the distilled water and fluid of Cohn, after previous disinfection of the discharges by carbolic acid, only symptoms of carbolic-acid poisoning were manifested."

LEBANON, KY.

SIX CASES OF ALBUMINURIA — THREE RECOVERIES, THREE DEATHS.

BY GEORGE N. MONETTE, M. D.,

Visiting Physician to the Charity Hospital, New Orleans.

During the winter of 1872–3 several cases of albuminuria came in for treatment, with the following results, viz.:

CASE I. S. T. W., aged twenty-eight years, a resident of one of the interior parishes, exposed to all the vicissitudes

of the country, suffered from albuminuria two weeks prior to admission into my ward. He had grave symptoms; namely, general anasarca, anorexia, palpitation of the heart, and excessive prostration. I ordered twenty-drop doses of tincture ferri chloridi and tincture digitalis, each to be repeated every three hours. His diet consisted of milk, eggs, and stimulants. Twenty-drop doses of aromatic sulphuric acid were substituted after the paroxysmal dyspnœa was alleviated. He was discharged cured after about three week's treatment.

CASE II. S. D., aged thirty-nine years, was admitted with same symptoms and additional complications of great gravity. Right pneumo-hydrothorax and ascites existed. Paracentesis thorasis was performed three times. An ordinary tin wash-basin full of fluid was withdrawn each time. This patient wore the aspect of a case of leucocythæmia. Upon post-mortem examination the right lung was found to be densely carnified; the left was distended by hypostatic congestion from long-continued lateral recumbency. The heart was flabby and dilated, and filled with fibrinous coagula. There were some diffused peritoneal adhesions, also pleuritic adhesions in affected thoracic cavity. The liver was of a slate color *(malarial)*, with Glisson's capsule thickened greatly, with abundant granulations.

CASE III. T. W., aged twenty-nine years, admitted with a similar complication as Case II, save pneumo-hydrothorax. Paracentesis abdominis was performed three times prior to his death, removing from one to three gallons at each tapping.

CASE IV. Ah Joy, a Chinaman, aged twenty-three years, admitted with usual symptoms of albuminuria. He had been at work on a rice plantation below the city. He died two weeks after admission.

The remaining two cases, which were cured, suffered from ordinary albuminuric symptoms, upon admission, of a malarial origin. Their treatment consisted of iron, quinine, cod-liver

oil, and stimulants. Eggs and milk and farinaceous articles of diet were freely used. The roller bandage was constantly applied to the lower extremities to relieve œdema, which was extremely painful from active distension in each of the cases.

NEW ORLEANS.

CASES OF CEREBRO-SPINAL MENINGITIS.

Dr. Rawlings Young, of Corinth, Miss.., communicates the following cases:

CASE I. J. P., aged fourteen years, was attacked about 5:30 P. M., March 17th, with headache and chill, followed by vomiting. At 10 P. M. he was comatose, pupils insensible to light and dilated, head hot, tongue white and flabby, temperature normal. Stimulants and quinine, mercurial purgative, hot foot-bath, sinapism to the spine, cold to the head.

Next morning reaction had occurred. Patient complains of pain in head and neck; has rigidity of cervical muscles, great muscular soreness, general hyperæsthesia of the surface, slight delirium; pulse 130; temperature 102.5°; pupils contracted; has perfect control over discharges from rectum and bladder; dullness on percussing the left lateral region of the chest. Directed sinapism to chest, quinine, bromide of potassium, and camphor-water.

Next day symptoms were not materially changed, save the occurrence of rust-colored sputa. Shaved the occiput and applied a blister, and gave an expectorant; pulse 130; temperature 102°. On the 20th tongue covered with a brown fur, sordes on the teeth, face suffused and purplish, ecchymoses on chest and fore-arms. On the 21st less delirious and some desire for food. On the 22d still less delirium; pneumonia better; pulse 127; temperature 101°.

By the 26th there was a gradual improvement in all his symptoms. In ten days he was able to sit up. It was more than a month before he was entirely well.

CASE II. March 22d B. J., fourteen years old, had a chill at 2 P. M.; at 4 P. M. was cold to the knees, almost pulseless, insensible. Treatment same as that of the preceding case when first seen.

Next morning reaction had occurred. Pulse 130; temperature 102.5°; great dilatation of pupils; boisterous delirium; head drawn back and hot; face flushed; left arm extended and fixed; cervical muscles rigid. Gave bromide of potassium, calomel, and Dover's powder, and applied chloroform liniment to the spine and cold to the head. At 2 P. M. had a cold stage as on the previous day, but it did not occur on the next.

March 25th: Pulse 127; temperature 102°; noisy delirium; tongue dry, cracked, and brown; sordes on the teeth; sudamina on throat and chest; a few ecchymoses on fore-arms and inside of thighs. Castor-oil, diaphoretics, bromide of potassium, and chloroform liniment to spine and left arm. Next day a blister to occiput and upper part of spine. On the 28th in some respects his condition was better; he was more rational and his expression better. From this on for about sixty days no important change. He took food, had evacuations from the bladder in a sort of automatic way; pulse in the morning 120, temperature 101°; in the evening the pulse was 125 to 130, temperature 102° to 102.5°; the arm and spine remained rigid. Alteratives, tonics, blisters, etc., were used with little or no perceptible benefit. He was frightfully emaciated.

After the second month he commenced gradually improving, though this tedious convalescence has been interrupted by a brief attack of dysentery and one or two attacks of intermittent fever; and now, after the expiration of five months, he is able to sit up three or four hours and to ride a short

distance on horseback. The rigidity is gone from spine and arm; senses and intellect unimpaired.

Case III. A stout, fleshy negress, forty-six years old, was seen at 7 A. M. on the 3d of April, two or three hours after the commencement of illness. She had pain in the occiput, extending down the spine and to the uterus; she was restless and half delirious; pupils dilated; tongue white and flabby; pulse 65; temperature 98°; some hyperæsthesia of the surface, but no muscular rigidity; bowels confined. Quinine and bromide of potassium, stimulating foot-bath, sinapism to spine and abdomen. Drew off a quart of urine with the catheter, and directed an enema.

The next day she was less restless; pulse 64; temperature 97.5°; urinary retention still; head retracted. Continued the bromide and quinine, and applied a blister to the occiput. On the 5th and 6th of April her temperature and pulse were the same as above, but her stupor deepened into coma, and she died on the morning of the 6th.

Case IV. On the 14th of April I saw a negress, twelve years of age, who had been sick two days. She first had pains in the head and neck, then chill and fever, with nausea and vomiting of greenish fluid. Pulse 132; temperature 103°; tongue dry and brown; she is moaning with pain; restless; does not speak rationally; some stiffness of neck; pupils contracted; eyes turned outward; fæces passed involuntarily; bladder enormously distended; has not slept for forty-eight hours.

In addition to therapeutic means pursued in previous cases, after emptying the bladder of a large amount of offensive urine, I directed one fourth of a grain of sulphate of morphia to be given every two hours until she slept. The next morning she was somewhat better; pulse 128; temperature 102.5°; had slept for six or eight hours. She had a blister to the occiput. Her inability to pass urine continued until the 17th; on the 18th some return of appetite; by the 19th she

had become rational, and from the 20th there was a steady improvement in every respect, and in a few days was able to walk. She recovered with no injury remaining to her senses or mind.

CASE V. A boy, nine years old, was first seen April 22d, twenty-four hours after having been attacked with rigors, fever, headache, nausea, and vomiting. Found him delirious; high fever; neck stiff; pupils contracted; right arm flexed; passes urine and fæces involuntarily; he screamed with pain on attempting to raise his head from the pillow. A cathartic had been administered, and I gave bromide of potassium and camphor-water and a diaphoretic.

Next day still delirious; pulse 135; temperature 103°; had not slept. Gave chloral, ordered warm bath and cold to the head, chloroform liniment to the spine, and continued treatment of previous day. No change in his condition on the 24th. On the morning of the 25th found he had slept a little at short intervals, but no improvement. In the afternoon he became completely insensible; pulseless; cool; moist skin; cold extremities; breathing slow and labored. Hot bath; stimulants; wet cups to spine. Reaction slowly came on, and in ten hours he had fever. Next morning I gave quinine, and also morphine at intervals until he slept, and then succeeded in securing seven hours' rest.

No important change occurred until the 29th, when some improvement was observed. This improvement was still more decided by the 2d of May, and by the 4th convalescence was fairly established. In about a month from the commencement of the attack he was able to walk, but there was still some contraction of the flexors of the right arm, and he had a shuffling, unsteady gait for two months. He is now entirely well.

CASE VI. Miss M. B., twenty-two years old, stout and fleshy, was attacked on the 7th of May with pain in head, neck, and spine, shivering, nausea, and vomiting, and then

high fever. Next morning completely insensible; pulse 70, weak and irregular; temperature normal; head hot; skin cool and moist; neck stiff; head drawn back; tongue white and flabby; pupils contracted; difficult deglutition; bowels constipated; urine retained. Treatment same as of preceding case, with the addition of hot foot-baths, sinapism to spine, cold to head. Next day wildly delirious; tries to get out of bed, or lies prone with upper part of trunk supported on flexed fore-arms; tongue brown and dry; sordes on teeth. Treatment continued; directed morphia until she slept. On the 12th she was better, and in a month she was well, all her faculties being unimpaired.

[In a note Dr. Young writes: "Of the value of opium in some forms in this disease I have not a doubt. It allays the pain, quiets the restlessness, and procures a quiet sleep not caused by other remedies. Called to treat this disease, I should give without fear morphia in full doses until the desired effect is produced."]

Dr. J. W. Whitmore, of Corinth, Miss., communicates the following case of cerebro-spinal meningitis:

May 17th J. D., a colored man, nineteen years old, robust and healthy, weighing one hundred and seventy-five pounds, went into the field in the afternoon, after riding six miles, to hoe cotton. He soon began to suffer with pain in the back of the head, and in half an hour was unable to walk to the house, a hundred yards distant. At five o'clock next morning I found him, after a night of restless delirium, rolling and tossing on the bed; discharges from his bowels frequent, involuntary, and offensive; slight contraction of the muscles of the neck and spine; respiration irregular; pulse 142, soft and compressible; skin moist and hot; pupils dilated and conjunctivæ injected; he could not swallow even fluids. Hot-water blister to the spine, cold to the head; a half drachm each of chloroform and of laudanum in starch-water by the

rectum. He died at 11 A. M., six hours from when I first saw him, and eighteen hours from the commencement of the attack.

Dr. H. Plummer, of Eldorado, Ky., furnishes the two following cases:

CASE I. J. L. W., a stout, healthy farmer, twenty-four years old, at 3 A. M. had a chill, followed by violent pains in the legs and some pain in the head, though he had retired the previous evening in usual health. At 1 P. M. Dr. Lapsley saw him, and found him still suffering with pains in the limbs; at times was delirious; pulse 120. No urine having been passed since the night before, an effort was made to introduce the catheter, but it failed because of spasmodic stricture at the neck of the bladder. One dose of calomel and rhubarb and sweet spirits of niter every three hours.

In the absence of Dr. Lapsley I saw him at 7 P. M. The cathartic had acted and he had urinated. His pulse was 130, feeble and thready; perspiring freely; intense thirst; great restlessness and muttering delirium; could be roused with great difficulty, and then would relapse into a stupor. His extremities were cold, and there were purpuric spots on the feet and legs. These spots in a short time were all over the body and the limbs. At first they seemed like the eruption of measles, some of them like flea-bites; but in a few minutes they became darker, looking like stains of ink under the skin, and also larger, so that at the time of his death some were as large as a silver half-dollar.

In a short time, Dr. L. having arrived, we gave him quinine and whisky, used a hot bath, and resorted to external stimulants; but he continued to sink rapidly, and died at twelve o'clock that night, less than twenty-four hours from the first manifestation of the disease.

This young man resided on the bank of Salt River, but it had been and is now a very healthful locality. There had

been neither miasmatic fever nor cerebro-spinal meningitis in that immediate locality, nor has there been either since.

In the very interesting report in the American Practitioner for August, 1872, by Dr. Reeve, of an epidemic of cerebro-spinal meningitis, the author gives a mortality of fifty per cent, which seems to me exceedingly small. Nevertheless, while this may be the true percentage in the epidemic form of the disease, I think that in the sporadic it will go to seventy-five or perhaps ninety per cent. My experience is that almost all the sporadic cases die.

Case II. February 4, 1867, I was called to see Mrs. F., a widow, forty-eight years old, who had lost a son the day before from cerebro-spinal meningitis. She was chilly and somewhat drowsy; pulse 85; tongue slightly coated. Gave her a cathartic. Next morning found that the medicine had acted, but she was no better; talked wildly, but would answer questions rationally. During her illness her symptoms would vary greatly in a few hours. At one time she seemed much better, her secretions in a good condition; and upon my next visit I might find the skin dry, kidneys failing to act, tongue like that of typhoid fever.

During her illness purpuric spots appeared on various parts of her limbs and body. Some of these were about two inches in length and rather more than an inch broad. As she recovered—this recovery commencing fifteen days after the beginning of the disease—the cuticle pealed off from these spots, leaving the surface very tender. The treatment was repeated blisters upon the neck and spine, quinine and Dover's powder, and an occasional mercurial; diuretics every few days; in general, meeting indications as they occurred, and was thus compelled to vary therapeutic means from time to time, though the above were most constantly used. She was entirely unconscious of all that transpired during her fifteen days' illness.

Reviews.

An Essay on the Principles of Mental Hygiene. By D. A. Gorton, M. D. Philadelphia: J. B. Lippincott & Co. 1873.

It is of evil augury for a book that it begins with an exhibition of ignorance. No matter whether the ignorance relates to the subject-matter of the book or not, it creates a distrust in the mind of the reader as to the general competency of the author. The essay before us opens with a blunder. The author adopts for his motto the familiar line in which Juvenal reckons among the blessings to be prayed for *mens sana in corpore sano*, and credits it to Horace. It is a mere literary blunder, and we can easily believe that a writer entirely ignorant of the Latin classics might produce an instructive work on mental hygiene; but in the case before us we regret to say that the title-page is a fair index to the character of the volume. It is introduced by an incorrect quotation, and concludes with something which reads very much like a defense of free-love. The essay indeed is a compound of truth and error, of striking facts and false conclusions, of sound suggestions and absurd, extravagant fancies, in which it is difficult to determine whether the good or the evil preponderates. It contains enough substantial truth to commend it to the regard of its readers; but the truth is so mixed up with error that it loses nearly all its force, and the feeling with which we lay it down is one rather of disgust than of satisfaction. The dead flies are small in bulk compared with the box of ointment, but they are numerous enough to spoil a much larger mass than Dr. Gorton has composed in his little work.

While candor constrains us to say all this, the wish is far from us to discourage the author of this essay. We hope he will be encourged to prepare a new edition of it, in which the blemishes by which it is disfigured will not again appear. He need not be at the trouble to inform his readers what was the standing of Sir Isaac Newton and Dr. Samuel Johnson as men of mind; nor will it be necessary to do more than refer to a poem so universally read as Pope's universal prayer. It is in bad taste, to say the least of it, in enumerating men born in happy wedlock to class the Savior of the world with Solon, Lincoln, and Greeley. "The Solons, Jesuses, Lincolns, Greeleys!" Dr. Gorton has probably but a faint idea of the disgust that will be excited in serious minds by such a sentence as this. If he should be called upon for another edition of his essay, he would do well to avoid altogether the subject of theology, which, as he mingles it with his science, makes a very distasteful mixture. And finally, he must revise his chapter on marriage, and strike out all the sentiments that seem to favor the search of "moral endowment outside the confines of a merely formal wedlock." As his book now stands, our impression is that it is calculated to do more harm than good.

Sex in Education, or a Fair Chance for the Girls. By EDWARD H. CLARKE, M. D., Member of the Massachusetts Medical Society, Fellow of the American Academy of Arts and Sciences, etc. Boston: James R. Osgood & Co. 1873.

Plato said wisely that there can be nothing better in a state than that both women and men be rendered the very best. To this end are directed the efforts of parents who are properly concerned about the welfare of their offspring; and it is the province of education, which in its widest sense embraces hygiene, to bring about this result. But as the theories re-

specting education are numberless, so the utmost diversity of opinion prevails as to the best mode of developing the female mind in connection with her sexual peculiarities, and Dr. Clarke in the little work before us has brought into the controversy questions both for physiologists and strong-minded women. To the former he may appear to have stated his positions somewhat too strongly, and to the latter he will seem to have narrowed down the arena upon which it is the privilege of women to compete with the sterner sex. If he has insisted too much upon the peculiar functions of the female as influencing her education, so far from any evil resulting from it, the exaggeration will have the effect of drawing more earnestly the attention of educators to the mischief which may be done to the health of girls by a perpetual strain upon their nervous systems. This is the aim of this most interesting little volume, in which the author has maintained the dignity of science, while he has produced a work as acceptable to the general as to the professional reader.

The doctrine of Dr. Clarke's book is, that a man should be educated for manhood and a woman for womanhood. That our girls are not wisely educated is shown by the fact that as a class they are more delicate than the girls of European countries, and are physically inferior to our young men. There must therefore be a vice in our educational system which calls for reform. It is found, our author thinks, in the neglect of the peculiarities of a woman's organization. The system of our schools fosters this neglect. The education of the sexes is substantially the same as to the mind, while the physical education of girls is overlooked or misdirected. Boys mingle active bodily exercise with their studies; girls are habitually sedentary. Boys of slower development than girls continue their studies long after reaching maturity; girls prosecute their studies with greatest assiduity at the most critical age, when their physical frames are acquiring full development, and generally cease to study soon after reaching

womanhood. Boys may apply their minds to study equally well at all times; but there are days in every month of a girl's life when the brain ought not to be taxed. During the catamenial period severe effort of body or mind is hurtful. This is the leading idea of Dr. Clarke's book, and it is illustrated with an amount of learning which renders it one of the most attractive volumes we have met with for a long time. It has grown out of an essay which the author read a year ago to the New England Women's Club in Boston, and is sure to find hosts of readers out of the profession as well as in it.

Expert Testimony. By THAD. M. STEVENS, M. D. Pamphlet.

The author of this paper, which originally appeared in the Indiana Journal of Medicine of October, 1873, undertakes to elucidate and explain the subject of "expert testimony," more especially in reference to cases of toxicology. To some of his positions we give our cordial assent; as, for example, where he enforces the necessity of a thorough qualification, both theoretical and practical, on the part of the "expert." He remarks: "Those are called to testify who ought not to be permitted to enter the witness-stand; some who are so ignorant that among their fellows their opinions amount to nothing, but who are *legally* as good as the most learned and scientific." This is truly a most serious fault in our system of jurisprudence in relation to expert witnesses, and one which can not fail to impede the course of justice.

Among "some notorious examples of the incompetency of medical testimony" the author cites the evidence in the well-known case of Dr. Schoppe, who was twice tried at Carlisle, Pa., for the alleged poisoning of Miss Steinnecke with prussic acid and morphia. But he is in error here in supposing that the "incompetent" testimony was exclusively

medical, such as that of the remarkable doctor who made the famous experiment with the chicken-hawk, and that it was wholly "outside of the chemical analysis," and that "it was not so much the fault of the chemical experts that mistakes and false impressions were made." From our own knowledge of these trials, confirmed by their printed reports, it is abundantly evident that it was to the very defective and inconclusive work of the *chemist* employed to make the analysis that the "mistakes and false impressions" were chiefly to be ascribed. It appears in the reports of the trials that the analyst, in searching for the suspected prussic acid, committed a signal blunder in his method of extracting it from the stomach of the deceased. He distilled this, together with its contents, *along with sulphuric acid;* a method which put it quite out of his power to say whether there had been any *free* prussic acid in the stomach or not, since the "slight traces" alleged to have been discovered might very properly be ascribed to the decomposition of the *sulpho-cyanide* of the saliva that might happen to be in the stomach at the time. Both Periera, in his Materia Medica, and Wharton and Stillé's Medical Jurisprudence sustain this position.

Further than this, when this same chemist came to apply his tests to the liquid thus obtained by distillation, it appears that he only employed *two* out of several recognized reagents. He altogether omitted one of the most important and reliable tests, that of *nitrate of silver.* In fact, so faulty and inconclusive was this analysis considered that the commonwealth abandoned the charge of prussic-acid poisoning, and fell back upon the wonderful "chicken-hawk" doctor's theory of a *compound* poisoning by prussic acid *and morphia!* No morphia, however, was found by the chemist. We have good reason therefore for believing that it was "the fault" of the "chemical expert" who made the analysis quite as much as the "incompetent testimony" of the funny doctor that was used with such effective power by the defense in

L. of C.

the Schoppe case, and which very properly resulted in the acquittal of the prisoner, inasmuch as it displayed a *material* lack of evidence of his guilt.

Our author then gives an example of what he terms a "discrepancy of opinion and statement among *real* experts," citing the celebrated Wharton-Ketchum case, and quoting from Dr. Williams's reply to Prof. Reese's "review" of the trial. In order to make it clear to his readers he tabulates certain results of "Prof. Aikin's analysis" alongside of certain results of "Prof. McCulloch's experiment." (The object of the latter was to demonstrate that the sulphureted-hydrogen test for antimony, *unless pure*, might be imitated in many points by certain complex organic mixtures.) In summing up the alleged "differences" between the two tables, the author says "the only point of resemblance to the proper action of antimony under the same circumstances was the cloud produced when the first precipitate dissolved in hydrochloric acid was cast into water."

Now we can not regard this as giving a fair or correct statement of the point at issue. Of course we do not mean to imply that Dr. Stevens has erred *intentionally* in the matter; but as we have carefully examined the "authorized version"—*i. e.*, the printed report of the trial—we prefer referring to *this* rather than to Dr. Williams's pamphlet. What then do we find in the *report?* On page 79 Prof. McCulloch, in his evidence, referring to his experiment upon a mixture resembling the contents of General Ketchum's stomach, states: "I obtained a red precipitate closely resembling such a one as antimony would give when thus mixed with animal matter. . . . I have since repeated these experiments on chloral and yellow jessamine, and with similar results." Further on he states that this red precipitate "dissolved in hydrochloric acid as that from antimony does; in other words, the two resemble each other *in this property.*"

Now, that Professor McCulloch meant that this language

should imply that *hot* or *boiling* hydrochloric acid (not *cold*, as Dr. Stevens quotes) was used to dissolve the *red precipitate*, precisely as for the antimonial precipitate, we think may reasonably be inferred by reference again to the report. On page 83 he says: "I do n't remember that it was hot or cold; it was strong acid." In no place is it stated that the acid was *cold*. Further on (page 96) Prof. Reese, in his evidence, speaking of the above resemblance, mentions that "the *boiling* of this precipitate in hydrochloric acid dissolved it." He then goes on to remark that "the only point of distinction between the two cases is the single fact that the white cloud is soluble in tartaric acid if antimony is present." On page 88 Prof. Reese alludes to another point of resemblance not noticed by Dr. Stevens; viz., the boiling of such a complex organic solution, acidified by muriatic acid, on a strip of bright copper, the latter receives a dark stain or deposit much resembling in appearance the stain produced by antimony under similar circumstances. And more than this, when the strip of copper is dried, rolled up and heated in a reduction-tube, a white, amorphous deposit takes place on the cool portion of the tube, very much as in the case of the copper stained with antimony.

As the gist of this whole matter then we understand Prof. Reese simply to take the ground that in a medico-legal case where life is at stake it is not proper, in the search for antimony or any other metallic poison, for the analyst to rely *exclusively* on the sulphureted-hydrogen test or its sequences, inasmuch as the results thus obtained may be imitated by certain organic substances so closely as at least to throw considerable doubt upon the issue. In all such cases we must agree with the "experts" for the defense in the Wharton-Ketchum trial in insisting that the chemical analysis should be an exhaustive one.

From some observation of the important criminal trials that have occurred lately in our country we are rather dis-

posed to believe that there is really very little difference of opinion among *real* experts, even though they be ranged on opposite sides. The difference seems rather between the *true* expert and those who only *seem* to be such.

The author concludes with some suggestions as to the proper remedy for the evil connected with the employment of incompetent "experts." After alluding to several methods he virtually arrives at the conclusion respecting them, however, that under the present state of things they are all impracticable.

* * *

Report on the Diseases of Indiana for the Year 1872, with a brief outline of the Medical Topography and Climatology of different localities. By GEORGE SUTTON, M. D., of Aurora, Ind., Chairman of the Committee. From the Transactions of the State Medical Society.

This monograph is chiefly composed of replies from physicians in forty-two counties of Indiana to questions, indicated in the title, which were addressed them by Dr. Sutton. An immense amount of labor has been performed by Dr. S. in conducting this correspondence and in condensing and arranging the replies; labor for which he deserves the thanks of the profession, and which, if continued, will be fruitful in good results.

Of course among so many contributions there must be some chaff among the grains of wheat, occasional substitution of opinions for facts, or a little adroit self-glorification or careless writing—at least two of the doctors write of the "horse epidemic"—but most of the contributors are men well known to the profession of the state, and their statements will command implicit confidence.

Among the special reports we have been interested in are those from Dr. Cogley, of Madison, Dr. Moffett, of Rushville, Dr. Lomax, of Marion, and Dr. Hammond, of Monticello.

Dr. Cogley, who gives a brief but interesting statement of a case of severe cerebro-spinal meningitis, which recovered chiefly, if not entirely, from the use of cups, some wet and some dry, to the upper portion of the spine, and the internal administration of gelsemium, states that more than three fourths of all the cases he heard of died. On the other hand, another reporter, but living in another county, treats five cases; four recover, while the fatal one occurred in a subject who had congenital hernia cerebri, and had been exhausted by previous sickness—a success which was most extraordinary, and must have been most gratifying to the practitioner. Nevertheless we believe Dr. Cogley's statistics are much nearer in accord with the general experience of the profession.

Dr. Sutton sums up—for we have not space to make other allusions to individual reports—the facts that these reports reveal, as follows:

"The extensive prevalence of cerebro-spinal meningitis in different localities throughout our state—presenting, however, no evidence that topography had any influence in modifying the severity of the disease; also the prevalence of erysipelas as an epidemic in certain counties, and its connection with puerperal fever; the extensive prevalence of influenza last winter, following immediately after the appearance of the epizoötic among the horses. The general prevalence of malarial fevers along the southern border of our state, prevailing in counties that are broken and undulating, while in other portions of the state these diseases were less prevalent than usual. The evidence presented by a number of our physicians that the draining of swamps and wet lands, by removing the local causes of malarial fevers, were converting into healthy localities sections of our state which were once known as being extremely unhealthy. Also the observations presented in the report from White County, that where swamps are extensive and not entirely dried during the dry season malarial fevers in such localities are much more prevalent, and assume a more violent and malignant form; also the facts presented by others that a dry season, completely drying shallow swamps, produces a remarkable exemption from malarial fevers; showing that a dry season may

produce a healthy or unhealthy locality, depending upon its medical topography. Also the observations presented by one of the correspondents that the burning of vegetation in the fall over the dried, swamp, or marsh lands has a tendency to prevent the development in these localities of malarial fevers during the following year. The testimony of a large number of physicians that changes are taking place in the character of our diseases, and that malarial fevers appear to be decreasing, while typhoid fever and diseases of the nervous system are on the increase. We also direct your attention to the fact that but one allusion is made to the prevalence of 'milk sickness'—a disease which thirty years ago would probably have occupied a conspicuous place in a report upon the diseases of the state." T. P.

A Clinical Manual of Diseases of the Ear. By LAURENCE TURNBULL, M. D. Philadelphia: Lippincott & Co. 1872.

In reviewing a new scientific treatise we should always consider whether we are dealing with an original work, made up of new investigations and researches, or whether it be a mere compilation of the labors of others. While the first should command attention, even though the results obtained may not always bear close scrutiny, the second and the easier of the two should be praised with caution.

Dr. Turnbull's work does not belong to the first category, which embraces such treatises as that of Gruber and Toynbee. The main purpose of the author appears to have been that of presenting to his readers who may not be versed in aural literature a *resumé* of the results obtained by other specialists, and to acquaint them with real progress recently made in this heretofore neglected department of medical science. The labor and time devoted to this laudable purpose should be amply rewarded; but we must confess our surprise that Dr. Turnbull has ventured to make such very copious extracts from the works of Toynbee, Wilde, Clarke, and Hinton, and

has inserted translations of many pages from Gruber's, Politzer's, Moos's, and Kramer's treatises. He does not hesitate, however, to give his opinions, both *pro* and *con*, as to the merits of the views quoted, and evinces a thorough knowledge of the literature of the subject-matter on every page.

The volume is divided into twenty chapters, and opens with an excellent introductory and an able article on congenital defects. Chapter II., treating of the physiology of hearing; Chapter III., on the laws of sound; Chapter XI., on otitis media purulenta, etc.; Chapters XIV. and XVI., on nervous diseases; are noticeably good and exhaustive. The last chapter is a *resumé* of the simplest and most effectual method of treating the more common diseases of the ear, and must be particularly suggestive to the general practitioner.

The book is illustrated by an excellent chromo-lithograph, exhibiting the anatomy of the ear and appendages, and by one hundred and seven very good wood-cuts. The bibliographical list extends from the year 1683 to 1871, and is as complete as possible. R. C. B.

Charter, Constitution, and By-laws of the Æsculapian Society of the Wabash Valley.

Dr. Ragan, of Neoga, Ill., sends us this pamphlet. The Æsculapian Society is one of the most useful voluntary medical organizations, and ranks among its members several medical gentlemen of more than local fame. We commend to the attention of the profession the two subjoined resolutions, which were adopted by the Society in 1872.

"Resolved, that no member of this society shall receive a student in medicine until he shall have been examined by the board of censors, and has received a certificate of qualification signed by at least three of the board, and countersigned by the secretary of this society.

"Resolved, that students must satisfy the censors by a certificate or diploma from some competent literary school, or by examination, that they possess a good elementary knowledge of the following English branches, viz.: orthography, reading, English grammar, composition, arithmetic, algebra, geometry, plane trigonometry, botany, natural philosophy, inorganic chemistry, and enough Latin to enable them to read, write, or translate correctly any Latin or English prescription given them." T. P.

Clinic of the Month.

On Quinine in Rheumatic Fevers.—Dr. A. W. Barclay has contributed to the last volume of St. George's Hospital Reports a short paper on this subject, which we wish our space would allow us to publish in full. He first discusses the *alkaline* treatment of rheumatic fever, and remarks that it can not be called curative in the proper sense of the term. He says:

"It may help to shorten the duration of the attack, it may serve to lessen the intensity of the inflammation, it may diminish pain, and it may not unfrequently ward off those more serious consequences which give to rheumatic fever its formidable character as a cause of heart disease. All this it may do, and in my own opinion, and that of many others who have made the experiment, it does actually accomplish, but it does not cure. It does not put an end to the paroxysm as bark puts an end to an attack of ague. It does not eradicate the disease as iodide of potash will eradicate the traces of syphilis; commencing as soon as the system is sufficiently saturated by full doses of the remedy, and continuing until complete recovery takes place, with a progress unbroken as long as the remedy is used, retrograding as soon as it is left off. It does not even expedite the recovery in the marked way in which it is expedited when colchicum is administered in gout in a case not yet blunted to its action. Ere long, I doubt not, sufficient statistical evidence will prove its beneficial action, but as far as I can judge it never can be capable of any logical proof. I think that no one can fairly and impartially test it as a mode of treatment without coming to

the conclusion that it is, on the whole, the best that has been suggested, but that it fails to cure the disease.

"Among the large number of cases of acute rheumatism treated with alkalies, one can not fail to remark that some of them give indications of depression, which can only be explained as the effect of the long-continued use of the remedy; and a question arises whether it is wiser to diminish the dose or risk the evil consequences of the depression, each having a tendency to make the case more protracted. Had we any positive rule by which to measure the quantity of alkali necessary, it would not be so difficult to decide; but there is certainly none such. Various means have been tried to meet cases of this kind. Stimulants avail to a certain extent, but have seemed to me to tend of themselves to keep up the disease, to lengthen its duration, and even to re-excite it after it has subsided. Quinine is that which, on the whole, has answered best in my experience. It is somewhat difficult to define the meaning of the term depression as applied to cases of this kind. The pulse keeps up, there is no delirium, there is no collapse; but there is a general impression conveyed by the symptoms present that the patient is unduly depressed, and it has been observed that in such cases the duration becomes protracted, and convalescence does not set in so quickly.

"It is then that I have given quinine with apparent benefit. One must not wait, as in slighter ailments, for the tongue to clean before its administration. It is given simply to meet this one symptom, because we know that there is worse behind. If the prostration be not removed, delirium will follow, and the case will at once wear a graver aspect. It is true that we do not now look upon delirium as evidence of inflammation within the cranium. The theory that the dura mater, being like the pericardium in physiological characters, must have similar pathological tendencies, has given way before the teaching of actual pathological facts that there is no such

metastasis as used to be assumed; still when present it indicates changes the gravity of which can not be overlooked. The blood can no longer stimulate the brain to the performance of its normal functions, and life is in extreme peril. Hence the importance of tracing such a change at its earliest period, and arresting it before it has reached that stage of development when nothing can be done beyond pouring down large doses of stimulants."

Excision of the Thyroid Gland. — In the Edinburgh Medical Journal, September, 1873, Dr. Patrick Heron Watson describes a method of excising tumors of the thyroid gland, which, besides being original, seems to be of easy execution, and, as far as can be established by two or three cases, devoid of risk. The leading features of Dr. Watson's operation consist in tying the vessels previous to the removal of the tumor, and doing it through the same incision as that by which the gland is extirpated. Dr. W. thus describes the procedure:

"1. The external incision should be very free, extending from the larynx to the notch of the sternum, if the tumor is large and spreads widely in a lateral direction. 2. The vessels, arterial and venous, in the superficial incision should be secured as they are divided, to avoid any obscuration of the parts through oozing going on. 3. The fascia should be as freely opened as the skin. 4. The investing delicate fascial sheath of the thyroid should be left undivided until the mediate ligature of the vessels included in their fine cellular sheath has been effected. This sheathing fascia or cellular capsule of the thyroid gland is only a prolongation of the sheath of these thyroidal vessels. If the capsule is opened then in pushing aside the soft parts to disclose the outline of the tumor, this delicate sheath is apt to glide off the surface of the thyroid gland; and should this occur the gland may readily be detached from the vessels even with comparatively gentle handling, and thus copious hemorrhage,

difficult of restraint, may be occasioned. 5. After the mediate ligature of the thyroidal vessels in their sheathing cellular envelope, the cellular capsule of the thyroid gland should now be opened by scratching through it in the middle line, and the attachments which still retain the goiter in its position carefully divided by means of curved and blunt-pointed scissors. There should be no tearing away of the gland, no pushing parts aside with any roughness of manipulation. 6. Should bleeding occur, it must be recollected that it must take place within the cellular sheath of the vessel and its prolongation upon the gland in the fashion of an investing capsule, and that if the vessels are to be tied they should be secured along with the cellular sheath. Without this sheath these enlarged trunks will be found so fragile as to risk being cut by the ligature, while any attempt to reach the bleeding mouths will usually be baulked by the infiltration by clot of this cellular envelope."

A Case of Hemorrhage from the Internal Carotid Artery successfully treated by Ligature.—Prof. Henry B. Sands, M. D., of New York, reports (New York Medical Journal) the following important piece of operative surgery: Having occasion to disarticulate the left half of the lower jaw for malignant scirrhus, situated chiefly on the inner aspect of the ramus and body of the bone near the angle, Dr. S. met copious arterial hemorrhage resulting from the procedure. The hemorrhage being temporarily checked by pressure with the finger, an inch of the external carotid artery and portions of equal length of the digastric muscle and the hypoglossal nerve were observed running through the tumor.

"These parts were necessarily divided and removed, together with the tumor. The external carotid, together with some smaller arterial vessels, having been tied, I was about to close the wound, when free venous bleeding took place from a small opening that I had accidentally made in the

internal jugular vein. After some reflection as to the best course to pursue, I seized the margins of the wound in the vein and applied a lateral ligature, not occluding the caliber of the vessel. The wound was then closed by sutures, except at its middle part, where an opening half an inch long was left for the exit of the ligatures. During the operation it was noticed that the upper part of the common carotid and the internal carotid artery from its origin to the base of the skull were exposed, and could be seen pulsating at the bottom of the wound.

"On the tenth day after the operation, at ten o'clock in the evening, while my partner, Dr. Curtis, was engaged in cleaning the wound, a sudden escape of blood took place both from the external opening and through the mouth. Dr. Curtis at once compressed the common carotid with the left hand, and, ripping open the upper end of the original incision, passed in two fingers of the right hand and made pressure over the line of the internal carotid. The hemorrhage ceased at once, about two ounces of blood having been lost, whose color gave no certain indication of the source of the bleeding. Pressure was successfully maintained until my arrival, at the end of about half an hour. It was then found that one of the upper two fingers covered the bleeding point, which was evidently above the carotid bifurcation, and Dr. Curtis was relieved by my pupil, Mr. Shafter. The ligatures were then examined, and that on the internal jugular vein identified and found to be attached far below the bleeding point. No ligature could be identified as belonging to the external carotid artery. After looking at the ligatures I, without giving ether, prolonged the opening in the neck downward along the anterior edge of the sterno-mastoid muscle, and endeavored to reach the common carotid high up. Owing to the altered condition of the parts, this proved impracticable; so, having divided the omo-hyoid muscle, I exposed the artery just below it, where the tissues were normal, and

passed, without tightening it, a ligature. The common carotid was then compressed between the ligature and the finger, and pressure relaxed upon the bleeding-point. A very vigorous spurt of blood followed, and pressure was resumed.

"An examination of the surface immediately above the seat of hemorrhage revealed a very soft pulsation just beneath the granulations along the line of the internal carotid. The latter vessel I directed Dr. Curtis to dissect while I controlled the bleeding. The internal carotid was exposed by scratching through the condensed tissues with the point of a grooved steel director; a ligature was passed and was immediately tightened, as was just afterward the one encircling the common carotid. I then lifted my finger from the bleeding-point and no gush followed, but a bleeding continuous in character and small in amount. This was easily controlled by pressure just below the opening, and for the first time the exact seat and nature of the latter were completely open to inspection. The blood was found to come from a small, circular, clean-cut ulceration in the side of the internal carotid artery, situated an inch below the upper ligature and the same distance above the upper border of the thyroid cartilage. Through this opening the white and glistening surface of the inner coat of the opposite side of the arterial wall was distinctly visible. After ascertaining the opening to be in the side of the internal carotid, I readily exposed this vessel two or three lines below the opening and applied a ligature, thus cutting off the source of the trifling hemorrhage which had persisted after the tightening of the first two ligatures. This hemorrhage must have been caused by the recurrent circulation through branches springing from the stump of the external carotid. The lower portion of the wound was then closed by a few silk sutures, and the rest lightly filled with dry lint.

"The operation, which lasted about two hours, was wonderfully well borne, the patient making no complaint. He lost altogether, both during the operation and the antecedent

hemorrhage, not more than four or five ounces of blood, and the pulse continued firm throughout. Milk and iced brandy were administered through the night, and the patient obtained sleep without anodynes.

"The subsequent progress of the case was eminently satisfactory. The two ligatures on the internal carotid separated on the ninth day, that of the common carotid on the fourteenth day, and that of the internal jugular vein on the seventeenth day after their application. The upper ligature on the internal carotid had in its noose an offensive white slough of the artery three eighths of an inch long, and another hemorrhage was feared. None occurred, however, and the patient recovered completely without any further unpleasant symptoms.

"*Remarks.* Lesions of the internal carotid are usually so rapidly fatal that no opportunity is afforded for surgical treatment. But even when the surgeon interferes success is not generally attainable, and, so far as I have been able to ascertain, there is only one other example of recovery recorded besides the one herewith reported. This case occurred in 1807 in the practice of Dr. Twitchell, of Keene, N. H., and in many respects it resembled my own. The hemorrhage was secondary, and took place, ten days after a gun-shot injury, while Dr. Twitchell was in the patient's house. He applied a ligature on the cardiac side of the opening in the wall of the internal carotid, but was obliged to check the recurrent hemorrhage by means of a graduated compress, as the opening was in that part of the artery which lies just beneath the base of the skull.

"From various sources I have collected the following instances of hemorrhage from the internal carotid. Some were treated and others were not, while all terminated fatally.

"1. A hunter received a penetrating bullet-wound of the face. Hemorrhage occurred on the third day, after the administration of an emetic. Death took place on the fourth

day, during an attempt to tie the common carotid. At the autopsy the ball was found lying behind this vessel, opposite the bifurcation. The internal carotid showed a longitudinal rent one fourth of an inch in length.

"2. Abernethy tied the common carotid for hemorrhage from a wound of the neck inflicted by a cow's horn. The patient died thirty hours after the operation, with symptoms of hemiplegia. At the post-mortem operation the facial, lingual, superior thyroid, and internal carotid arteries were found torn.

"3. Langenbeck tied the common carotid for hemorrhage from the internal carotid, caused by the ulceration of an epithelial cancer. Death occurred soon after the operation, and an ulcer not larger than the head of a pin was found in the coats of the internal carotid.

"4. A. Smith ligated the common carotid for hemorrhage from the internal carotid, caused by a phagedenic ulcer of the tonsil. The patient died in six hours.

"5. In the 'Medical and Surgical History of the War of the Rebellion' a case is reported in which the common carotid was tied for hemorrhage from the internal carotid, caused by a gun-shot wound. The hemorrhage recurred and carried off the patient.

"6. Baizeau tied the common carotid for hemorrhage from the internal carotid, caused by disease of the ear. The bleeding was not arrested, and proved fatal on the third day. At the autopsy an opening was found in the internal carotid, produced by caries of the walls of the tympanum.

"7. Broca performed an operation like the one last described, and with a fatal result, due to hemorrhage.

"8. Billroth, in a case of hemorrhage from the right ear, due to ulceration of the internal carotid, tied the right common carotid, and a fortnight subsequently the left common carotid. Death from hemorrhage occurred two days after the last operation.

"9. Dupuytren reports the case of a man who received a perforating bullet-wound of the neck at the level of the inferior maxilla. Hemorrhage, which pressure failed to arrest, occurred on the tenth day, and proved fatal on the twelfth day. At the autopsy a wound one half an inch in length was discovered in the internal carotid, two inches above its point of origin.

"10. Heyfelder relates that a soldier received a penetrating wound on the left side of the neck, and died of hemorrhage eight hours after the injury. Ice-bags were the only means employed to check the bleeding. The internal carotid was found to be almost completely divided three and a half lines above its origin.

"11. Beclard states that a traveling charlatan wounded the internal carotid while attempting to excise an enlarged tonsil. The operator fled, and Beclard was summoned just in time to see the patient die from hemorrhage. A wound of the internal carotid was found post mortem.

"In some of the cases above mentioned—namely, those in which the hemorrhage was due to disease of the petrous bone—the application of a ligature on the distal side of the arterial lesion was impossible; and the case that I have reported is the only one, so far as I am aware, in which a lesion of the internal carotid has been treated by the application of a double ligature to the injured vessel, one on the proximal and the other on the distal side of the bleeding-point. The result affords additional evidence of the soundness of the rule laid down by Mr. Guthrie; a rule which is too often neglected, as is shown by the surgical reports of the late civil war, even at the present day. It is not perhaps difficult to explain why a surgical maxim so generally admitted to be binding should be so often disregarded. The application of a double ligature to the bleeding vessel is simple in principle, but generally difficult and sometimes impossible in practice. The deep situation of the bleeding vessel, its relation to other

important parts, and, in cases of secondary hemorrhage, the infiltration of the surrounding textures with inflammatory products, offer serious and sometimes insuperable obstacles to the application of a double ligature near the opening in the arterial walls. In these circumstances the temptation to apply a simple ligature to the main trunk is very great; and experience shows that this operation, either alone or, as in Dr. Twitchell's case, in conjunction with pressure, may sometimes insure the desired result. Yet success in such an operation can never be expected, and the surgeon should in no case perform it except as a last resort, and after an attempt has been fairly made to apply a double ligature according to the rule admitted by nearly every surgical writer as imperative. In the present case it is plainly evident that unless the ligature had been applied above as well as below the bleeding-point death from hemorrhage would have rapidly and inevitably followed, as it was noticed that the simple interruption of the circulation through the common carotid produced no appreciable diminution in the violence of the bleeding, which, however, ceased almost entirely when a ligature was applied to the internal carotid beneath the base of the skull. The slight recurrent hemorrhage still going on was controlled by the third ligature, placed just below the bleeding-point. This ligature I should have applied at first, instead of tying the primitive carotid, had the state of the parts rendered the requisite dissection practicable.

"Finally, it may be interesting to note the success which attended the application of a lateral ligature to the internal jugular vein. In spite of the weight of authority in favor of treating wounds of large veins by the use of a double ligature, completely surrounding the vein above and below the bleeding-point, I am strongly inclined, if the wound be small, to trust to a single ligature, applied laterally, so as to include merely the edges of the wound, and not to interrupt the current of blood through the injured vessel. In case the

wound were of large size, however, I should then regard the complete ligature of the vein as affording the best guarantee of success."

EMULSION OF COD-LIVER OIL.—Willard M. Rice, jr., Pharmacist, offers (in the American Journal of Pharmacy, December, 1873) the following formula for the emulsion, which he thinks is superior to any other:

R.	Oleum morrhuæ, ...	fl. ℥ viij;
	Tragacanth, ...	℥ j;
	Sacchar. alb., ...	℥ iv;
	Ol. gaultheriæ, ...	gtt. lx;
	Ol. sassafras, ...	gtt. l;
	Ol. amygd. amar., ...	gtt. x;
	Aquæ, ...	fl. ℥ viij.

The tragacanth and sugar are to be dissolved in the water and the mucilage strained. In this is to be incorporated first the essential oils and then the cod-liver oil. This makes an elegant-looking emulsion, not too thick, containing fifty per cent of the oil, and of a rather pleasant taste and smell.

COMPARATIVE ADVANTAGES OF ELECTROLYSIS AND GALVANO-CAUTERY.—1. The relief of pain of malignant tumors is best accomplished by electrolysis or by external galvanization. Cauterization with the galvano-cautery burners modifies the pain to a certain extent, and in some grave cases may have a more permanent relieving influence than electrolysis or external electrization; but for the great majority of cases of ulcers or tumors, where relief of pain is the leading indication, electrolysis or external galvanization, or both combined, will best accomplish the purpose.

2. Scirrhus of the breast, where there is no ulceration, and external fibroids and goiters are best treated by external electrization and electrolysis.

3. For the treatment of polypi—some other tumors, with

a base of moderate size and accessible, as of the ear, nose, larynx, and uterus — the galvano-cautery is preferable to electrolysis.

4. In cases where large blood-vessels are involved, and there is consequently great liability to hemorrhage, the galvano-cautery is preferable to electrolysis. Moderate hemorrhage can be easily controlled by electrolysis, especially by the positive pole.

5. Erectile tumors, superficial and subcutaneous, epithelial and encephaloid cancers in all accessible locations, may be treated with more or less success by either electrolysis or galvano-cautery, or by both combined. We are inclined to the belief that the results of a combination of the two methods would be more permanent in many cases than when only one is employed. To establish this opinion by clinical experience will require time and careful observation. (Beard and Rockwell's Clinical Researches in Electro-Surgery.)

Electric Cautery in Uterine Surgery.—Dr. J. Byrne, of New York, in his recent work on this subject, submits the following aphorisms pertinent to the operative procedures in use:

"1. In all cases of induration, destructive ulceration, and outgrowths of the cervix uteri of a malignant nature, or believed to be so, and therefore warranting excision by galvano-cautery or other means, such operations should never be limited to the apparent line of demarkation between sound and healthy tissue, but must include the whole vaginal cervix at least, and even more if need be. 2. When the shape of a part to be excised is such that a loop can not be made to embrace it, a circular furrow for the reception of the wire may first be made by the cautery knife. 3. The wire loop, knife, or other instrument should never be brought to a white heat when passing through superficial tissues or cellular growths. 4. Traction on the part to be excised should

be carefully avoided until the wire has passed well into the submucous structures. 5. The contraction of the loop should in all cases be very slow and gradual, *yet interrupted*, so as to insure a thorough cauterization of each stratum as passed through. 6. Toward the close of such operations, and as the circle of wire becomes small, let the amount of electricity be proportionately lessened. 7. Apply the knife to the spot intended to be cut *before heating*, and, if possible, be always provided with a duplicate of this little instrument. 8. Shun the use of persulphate of iron as a utero-vaginal styptic dressing when possible; and, should any such agent be needed, substitute solutions of alum or acetic acid, dilute or strong, as circumstances may warrant."

Rules for the Employment of Cubebs in Diphtheritic Pharyngitis.—1. Always use recently-prepared, finely-powdered cubebs, suspended in a liquid. 2. Administer it as soon as possible, and even at the commencement of the disease, if the affection is recognized. 3. Always give it in large doses—the medicine never having caused the slightest accident—from twelve to thirty grammes in twenty-four hours, according to the age of patient. 4. Continue the use of the remedy for several days after the disappearance of the false membranes, until there is no further probability of a relapse (generally for three or four days). 5. Recommence the use of the remedy immediately, and continue it with perseverance, at the least re-appearance of the membranes. 6. Always combine with this remedy a tonic and building-up regimen (beef-tea, roasted meats, good wine, cinchonated wine, and, in certain cases, iron).

This is the method of treatment adopted by Dr. Courcelle (*Journal Méd. de la Mayenne*). This practitioner has entirely abandoned cauterization, which M. Trideau very properly calls a barbarous procedure. He considers insufflations of tannin and detersive gargles as simple adjuvants, useful in certain

very rare cases. M. Courcelle prefers the following: ℞. Fresh finely-powdered cubebs, twelve to thirty grammes; Malaga wine, water, and syrup of orange-peel, āā sixty grammes; to be taken during twenty hours. (New York Med. Jour.)

On the Elastic Ligature.—Prof. Dittel *(Allgem. Wien. Med. Zeit.)* thus describes his most recent mode of using the elastic ligature:

"I have now so modified my procedure that I can secure the operative results as certainly as with the knife itself. The thing is very simple. I divide the operation into two periods. Say that I have a tumor of the breast to remove. Exactly as formerly I conduct the elastic ligature behind and around the tumor by means of the curved needle, but now I only tie the lower ligature. When this has separated things are exactly as if I had executed with a knife the lower half of an elliptical excision. I am now able to see and feel whether I have left any thing behind; and if this is the case, I can remedy the defect either by applying another ligature or by including what has been left within the upper ligature. If the first ligature has fallen, and the surface of the wound has been examined, I then occupy myself again with the tumor, carrying the ligature by means of the needle from the middle of the wound upward and behind the tumor, so that it is embraced within the two cords, just as by the old method the entire tumor was. In this manner the operation is as complete as if performed by the knife, lasting several days longer, but causing much less pain."

Notes and Queries.

PLACENTA PRÆVIA.—Dr. W. W. Cleaver, of Lebanon, Ky., states that in a practice of more than twenty-three years he has met with two cases of *placenta prævia*, and he is satisfied from his experience in these cases that the safety of the patient depends upon prompt delivery; therefore, when the os is sufficiently dilated, he resorts at once to podalic version, or in suitable cases to the forceps. Dr. C.'s cases, briefly given, are as follows:

"*Case* 1 — Mrs. M., about thirty years of age, mother of four children, in her fifth pregnancy was taken with violent uterine hemorrhage at 1 P. M. while standing. Position, cold, and astringents were used, and then the tampon. At 9 P. M. I saw her in consultation. The hemorrhage had ceased, and the head engaged in the pelvis. Brandy, ammonia, and the fluid extract of ergot were given, but the patient was very much exhausted and the pains inefficient; and as soon as practicable forceps were applied, and a dead male child at full term delivered. The operation was easily and quickly done. There was no more hemorrhage, but the patient continued to sink in spite of stimulants, exhausted by the previous loss of blood, and died at 4 A. M.

"*Case* 2 — Mrs. S., twenty-eight years old, a very robust, plethoric woman, weighing two hundred and twenty-five pounds, mother of a child five years old, was in the seventh month of her second pregnancy; complained of frequent uterine hemorrhages, occurring generally at night when sleeping. I directed a recumbent position, lead, and opium, and these failing, a tampon of cloths wrung out of vinegar and

water. The hemorrhages still continued at intervals for about two months, when I was sent for in haste because of a profuse flow. I found her quite exhausted, the os well dilated, a portion of the placenta presenting, the membranes unruptured. Gave ergot, ruptured the membranes, and introduced my hand. The child was in a transverse position; succeeded in grasping both feet and brought them down, then waited for a few minutes. The uterus began to contract feebly, and I completed the delivery, the entire operation from the first step accomplished in twenty minutes. The placenta was removed; there was no more hemorrhage; the patient made a slow but complete recovery."

India-rubber Web as a substitute for the Tourniquet. Dr. F. B. Schultze, of Grand Tower, Ill., has found in two cases which he narrates an excellent substitute for the tourniquet. The cases are these:

"*Case* 1—A young man working in a steam saw-mill had his hand cut off by the saw an inch above the wrist; the violence with which this injury was done being shown by the fact that the amputated member was thrown a distance of twenty-eight feet! Upon bringing my amputating case, half an hour after the injury was received, I found my tourniquet missing; but having in my pocket some elastic web, such as is used in making braces, I commenced winding it round the arm two inches and a half above the injured part, and continued it up until the circulation was completely controlled, and then fastened it. The flaps were made and the bones sawed with the loss of only a few drops of blood. The bandage was then loosened. In about a minute the arteries commenced bleeding. They were then tied, and the flaps brought together. The ligatures came away on the eighteenth and twentieth days, and the wound was completely healed in thirty days.

"*Case* 2—A boy three years of age got his hand caught

in a straw-cutter, and received seven cuts from the first phalanges to the wrist. As it was quite dark when I saw the patient, I simply wrapped the fore-arm with the india-rubber web, and postponed operating until the next morning. At that time I disarticulated at the wrist, and there was no hemorrhage after the removal of the bandage until I washed the wounded surface with warm water. Ligatures were applied, which came away in twelve days, and the wound was quite healed in seventeen days.

"Since these two cases, both of which occurred in July, 1870, I do not use a tourniquet at all, but the elastic bandage, in amputations. In amputation of the penis the elastic band will be found very useful. Select such band half an inch broad and apply carefully, and there need be scarcely any blood lost in this operation."

FRESENIUS—TENDENCY OF SCIENTIFIC TEACHING IN EUROPE. The following is part of a letter recently received from Dr. T. C. Vannuys, an able and well-known member of the profession of Evansville, who is at Weisbaden, Germany, studying *analytical chemistry*, and whom we hope soon to see called to an important chair in the State University of Indiana:

"In May last I arrived in Germany, since which I have been working in Fresenius's laboratory, except the vacation in September. That month I visited many of the chemical laboratories in Southern Germany and Switzerland. I found that the course of instruction given in this laboratory is much more thorough and extensive than that of any of the others. . . . There is no more noted man in analytical chemistry in Europe than Fresenius. He visits each student every day at his stand, and expects a full account of his work. Each analysis must come within two tenths of a per cent, or it must be repeated. It is astonishing how much work he does every day. Besides lecturing and teaching in the laboratory, he directs the work of his private assistants in general analysis

and in original investigation; he devotes several hours every day in preparing new editions of his works on *Qualitative* and *Quantitative Analysis*, and editing his *Analytical Zeitschrift*. Fresenius is the type of a German philosopher, yet he does not delight in speculating in science. He still adheres to the old theory of chemical combination; he and Kolbe, of Leipzig, being the only chemists of note in Germany since Liebig's death who attack the new. In this connection there is one fact worthy of note perhaps: scientific teaching is constantly becoming more practical, so that a far greater number of students will be found from year to year in those institutions where the most practical courses are given, while fine lectures, with a display of elegant apparatus, have measurably ceased to draw students. This is well illustrated in the Medical Department of the University of Zürich, particularly as to *histology* and *medical chemistry*, and as to *pathology* in Virchow's Pathological Institute of the Berlin University."

HIPPOCRATES REDIVIVUS.—Dr. George W. Balfour recently delivered an address before the Royal College of Surgeons of Edinburgh, in which he draws the following amusing sketch of the great clinicist of Cos:

Dr. Balfour endeavored to picture the astonishment which would be experienced by one of the skin-clad savages who inhabited the shores of the Firth of Forth or the site of this city two thousand years ago could he now be introduced to the changed scene. But his awe-struck amazement would be as nothing compared with the admiring astonishment with which Hippocrates, the father of our art, could we rouse him from his long slumber, would regard the present state of medicine. He pictured him scornfully surveying our paltry architecture as he passed along our streets to the Royal Infirmary, where, after ascending the main staircase, he is conducted into one of the side rooms and courteously received by the attending physician and his clinical clerks,

who—mindful of Mr. Syme's first axiom, never to look surprised at any thing—are politely blind to the scanty raiment of their strange visitor. Warmed by the genial atmosphere around him, feeling himself, as it were, at home amid the sick and their surroundings, conscious of his own personal reputation and of the esteem in which his views and his works were held for many hundred years, the venerable gentleman essays to impart a little clinical instruction in return for the kindness with which he has been received. Attracted by the appearance of some fluid collected in glass jars which he thinks he recognizes, he proceeds to descant on the prognostics to be derived from the appearance of urine. He points out that clouds in the urine are favorable in proportion to the lightness of their color; but that, however light may be that color, the prognosis becomes more unfavorable if the cloud should rise instead of fall, and absolutely unfavorable—a fatal sign—if there is a general turbidity of the urine without any sediment, while a sediment smooth, white, and consistent indicates freedom from danger and a short illness; but if the urine be occasionally clear, the disease will be protracted. . . . Thus pleasantly discoursing on the results of his experience obtained in his own infirmary—the Asclepion of Cos—and delighted at the ease with which his clear and incisive, if somewhat dogmatic, sentences have flowed from lips silent for so many hundred years, Hippocrates glances complacently around upon his audience, and finds that while he has been speaking one of the young men has by boiling some of the urine in a test-tube obtained an opaque, milky-looking fluid, and another a copious brick-red deposit. A little aghast at these peculiar and unexpected results, he wisely says nothing, and when suddenly asked as to what he thought of the comparative merits of picric and nitric acids as tests for albumen, he feigns a little deafness. But the look of helpless imbecility which begins to steal over his face is not lessened when another inquires whether he prefers

Moore's, Trommer's, or Boc Hoher's test for sugar in the urine, or whether he pronounces any other less fallacious; and what he thinks of a milk diet as a curative agent. The words "milk diet" recall the fast-fading color faintly to his cheek, and with one timid glance at the microscope, beneath which one of the clerks has a preparation the nature of which he is anxious to know, poor Hippocrates passes out into the ward, discoursing pleasantly of the virtues of ass's and of cow's milk, of their hurtfulness in fevers, and of their curative virtues in gout and in phthisis. The physician, ignoring his peculiar ideas as to the use of milk in fever, courteously inquires his views as to tubercle, what he thinks of its relation to inflammation generally and to catarrhal pneumonia in particular; and without waiting for his answer shows him a fine specimen of the "cracked-pot" sound, and then hands him a stethoscope that he may listen to a peculiarly good example of bronchophony. The word has a Greek ring about it, and thinking he may understand it better with the instrument in his hand, Hippocrates take it, and, uncertain what to do with it, looks first at it and then through it, considers whether he should listen to it as to the moaning of the sea in a shell, or whether the sound is to be produced by blowing through it as a trumpet; and, utterly bewildered by all he has heard and seen, suddenly recollects an important engagement in Thessaly, and with many thanks returns the wonderful but unknown instrument, and departs a sadder if not a wiser man, fully conscious that if called upon to pass a clinical examination of to-day, he, the greatest clinicist of antiquity, would infallibly be found wanting.

Dr. Balfour went on to say that the first lesson to be learned from this little episode of Hippocrates was the very great advance in scientific accuracy which medicine has made since his day. The second lesson—and a very important one it was—was that the most thorough knowledge of ancient medical lore, and the most perfect acquaintance with the

purest Ionic Greek, were of no practical value to the medical student of the present day. He urged the study of natural philosophy and natural history, more especially of vegetable physiology. He considered chemistry most important, and believed that medicine would assuredly halt until we had a practical chemist attached to all our infirmaries.

INVETERATE PSORIASIS.—Dr. Geiger, in a paper read before the Medical Society of St. Joseph, Missouri—a copy of which he sends us—reports a severe case of general psoriasis of twelve years' standing, which has seemingly been cured by iron, quinine, cod-liver oil, and arsenic. Warm alkaline baths locally gave comfort.

DR. MATTHEW BAILLIE, a nephew and private pupil in anatomy of Dr. Wm. Hunter, was thus addressed, according to the "Gold-headed Cane," by his uncle: "Matthew, do you know any thing of to-day's lecture?" "Yes, sir; I hope I do." "Well, then, demonstrate to me." "I will go and fetch the preparation, sir." "Oh, no, Matthew; if you know the subject really, you will know it whether the preparation be absent or present."

WAS THERE A "BOURBON" AMONG THEM?—Hollinshed's Chronicles, 1577, thus discourses of whisky: "One Theoricus *(Episc. Hermenensis juxta Bononiam)* wrote a proper treatyse of *Aqua Vitæ*, wherein he prayseth it to the ninth degree. He distinguisheth three sort thereof—*simplex*, *composita*, and *perfectissima*. . . . *Beying moderately taken*, sayeth he, it sloweth age, it strengtheneth youthe, it helpeth digestion, it cutteth fleume, it abandoneth melancholie, it relisheth the harte, it lighteneth the mind, it quickeneth the spirits, it cureth the hydropsie, it healeth the strangury, it poundeth the stone, it repelleth gravel, it puffeth awaie ventositie, it kepyth and preserveth the hed from whyrling, the eyes from

dazelyng, the tongue from lispyng, the mouthe from snafflyng, the teethe from ratlyng, the weasan from stieflyng, the stomache from wamblyng, the harte from swellyng, the bellie from wirtchyng, the guts from rumblyng, the hands from shiveryng, the sinowes from shrinkyng, the veynes from crumplyng, the bones from akyng, the marrow from soakyng. . . . . *And truly it is a soueraigne liquour if it be orderlie taken.*"

Sir Philip Crampton, besides being one of the most genial of men, was also one of the most splendid-looking. At the king's levee in Dublin, in 1821, he appeared in the uniform of surgeon-general, which was completely military. The king, struck by his noble appearance, said to Lord Newbury, "Fine man! general officer? in what branch of the service?" Norbury, being too much of a courtier to allow that royalty could be mistaken, and too inveterate a punster to omit an opportunity, replied, "May it please your Majesty, that is Crampton, a general in the *Lancers*."